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10/566,373	01/30/2006	Shugo Nishi	284523US0PCT	2096
22850	7590	06/02/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ZIMMER, ANTHONY J	
			ART UNIT	PAPER NUMBER
			1793	
			NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/566,373	Applicant(s) NISHI ET AL.	
	Examiner ANTHONY J. ZIMMER	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/7/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 3-6 are objected to because of the following informalities: The use of the phrase “measured by JISK6217-4 (a carbon black for rubber-basic characteristics)” is superfluous and should be deleted. Appropriate correction is required.

Claim 9 is objected to because of the following informalities: Matting agent is spelled as “mating agent.” Appropriate correction is required.

Claim 10 is objected to because of the following informalities: The punctuation used in the claim is grammatically incorrect. In particular the phrase “An adsorbent for pharmaceuticals, agrochemicals...” does not require a comma and should contain the conjunction "or." Appropriate correction is required.

Drawings

The drawings are objected to because the details in the drawings are illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the

remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 recite the limitations "the maximum value," "the pore volume," "the pore radius," "the pore distribution curve," and "the pore peak radius." There are insufficient antecedent bases for these limitations in the claims. All dependent claims of claims 1 and 2 are rendered indefinite as a result.

The term "JISK6217-4 (a carbon black for rubber-basic characteristics)" in claims 3-6 is not defined in the specification or the claims and renders the claims indefinite as one of ordinary skill in the art would not be reasonably apprised of the scope of the claim.

Claims 3-6 recite the limitation "the oil absorption." There are insufficient antecedent bases for this limitation in the claims.

Claim 7 recites the limitation "the OI1." There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the OI2." There is insufficient antecedent basis for this limitation in the claim.

Claims 7 and 8 are rendered indefinite as there are no units on the numbers claimed; thus the scope of the claim is indefinite.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kuhlmann (US2002/0102198).

In regard to claims 1-8, Kuhlmann teaches a precipitated (amorphous) silica. See [0001].

Kuhlmann is silent in regard to the properties required by claims 1-8.

However, the process of making the silica of Kuhlmann is substantially similar to the process of making the silica as presented in instant Example 1 (or Example 2). In

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particular, both processes combine sodium silicate and sulfuric acid, wash and filter the precipitate, add acid to adjust the pH to similar values (instant Example 1 utilized pH of 4; Kuhlmann uses pH of 3-5, see [0021]), and utilize spray drying. See [0016]. Thus since the process of making the silica of Kuhlmann is substantially similar to the instant process of making, the products must also be substantially similar and have substantially similar properties. See MPEP 2112.01. Kuhlmann teaches a high DBP (oil) absorption value (380-420 g/100g or ~ 362 -400 cm³/g), see claim 1.

In regard to claims 9 and 10, Kuhlmann teaches using the silica as an adsorbent (carrier) for pharmaceuticals and agrochemicals. See [0026].

In regard to claim 11, the claim only requires the silica as addressed above. Thus, the claim limitations are considered to be met. Furthermore, amorphous silica is routinely used in the art as a matting agent. (See, for instance, US5637636, column 2, lines 35-56.)

Claims 1-4 and 7-11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Boyer '298.

In regard to claims 1-4 and 7-8, Boyer teaches a precipitated (amorphous) silica with a pore peak diameter at the maximum of the volume pore size distribution curve in the range of 30-200 nm (a radius of 15-100 nm) and an oil adsorption value of 180-300 cm³/100g. See claim 1.

Boyer is silent to the maximum value of $\Delta V_p/\Delta R_p$ and the values of OI1 and OI2. However, the properties of the silica of Boyer, as previously discussed, are substantially

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similar to those of the instant invention as required by the claims; thus the other properties of the silica of Boyer must also be substantially similar to those of the instant application. See MPEP 2112.01. Furthermore, the process of preparing the silica of Boyer is substantially similar to that of Example 2 of the instant application. In particular, both processes react sodium silicate with acid under shearing forces at similar temperatures (95°C in instant Example 2 and 91-100°C in Boyer), aging (holding the temperature for a time), adjusting the pH (to similar levels), filtering, washing, drying (spray drying), and pulverization. See column 6, line 59 - column 8, line 2. Thus, since the processes of making the silicas are substantially similar, the products would also be substantially similar. See MPEP 2112.01.

In regard to claims 9 and 11, Boyer teaches using the amorphous silica as a matting agent in a battery separator. See column 1, lines 5-16. Furthermore, amorphous silica is routinely used in the art as a matting agent. (See, for instance, US5637636, column 2, lines 35-56.)

In regard to claim 10, the claim only requires the silica as addressed above. Thus, the claim limitations are considered to be met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5-6 and 9-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Boyer, as applied to claims 1-4 above, further in view of Kuhlmann.

In regard to claims 5-6, Boyer fails to teach a silica with an oil adsorption in the range of the claims. However, it would have been obvious to one of ordinary skill in the art to modify Boyer in view of Kuhlmann because Kuhlmann teaches that the oil absorption property of amorphous silica is affected by the pH of the silica and that pH can be adjusted by utilizing ammonia gas. See [0023]-[0024]. Thus, the oil absorption capacity is a matter of design choice and routine optimization that fails to produce an unexpected result.

In regard to claims 9-10, Boyer is silent in regard to using amorphous silica as an adsorbent for pharmaceuticals or agrochemicals; however, Kuhlmann teaches using amorphous silica as an adsorbent (carrier) for pharmaceuticals and agrochemicals. See [0026]. Thus, employing the amorphous silica of Boyer in a known use for amorphous silica in the art would have been obvious to one of ordinary skill.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1–11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 and 13-15 of copending Application No. 10/567082. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claims 1-3 of 10/567082 contain all of the limitations required by instant claims 1-6. Claims 13-15 of 10/567082 contain all of the limitations required by claims 9-11 of the instant application. Though the limitations of instant claims 7-8 are not mentioned in the claims of 10/567082, the silica of 10/567082 would necessarily have the OI1 and OI2 values required by instant claims 7-8 because properties of the silica presented in claims 1-3 of 10/567082 are substantially similar to that of the silica in instant claims 1-6. Thus, other properties of the silicas, such as those required by claims 7-8 must also be substantially similar. See MPEP 2112.01.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsuda '373 teaches an amorphous silica with a high oil absorbing capability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. ZIMMER whose telephone number is (571)270-3591. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ajz

/Steven Bos/

Primary Examiner, Art Unit 1793